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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,685	03/26/2004	Thomas Kolze	1875.4070001/TCF/BSW	7878

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EXAMINER	
ANDREWS, LEON T	

ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
12/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,685	KOLZE ET AL.	
	Examiner	Art Unit	
	LEON ANDREWS	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/10/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. **Claims 1, 3, 5-7, 9-19** are rejected under 35 U.S.C. 102 (b) as being anticipated by Grimwood et al. (Pub. No.: US 2001/0033611 A1)

Regarding Claims 1 and 3, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) for maintaining synchronization in a communication system wherein a central entity transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (Fig. 6, 256, Sync message includes sample of timestamp and CMTS sends sync message; transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising:

synchronizing a first symbol clock (downstream symbol clock, paragraph [0012], page 2, line 9) of a first transmitter (downstream data transmitted (first transmitter) by the CU, paragraph [0012], page 2, lines 10) in the central entity and a second symbol clock (upstream clock, paragraph [0012]. page 2, line27) of a second transmitter (data transmitted (second transmitter) by the RU in the CU, paragraph [0012], page 2, lines 26-29) in the central entity (all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5);

transmitting a first signal using a first transmitter in the central entity (downstream clock signal of the downstream symbol clock of the first of transmission, paragraph [0012], page 2, lines 31-39; Fig. 6, 256) to the one or more remote devices, wherein the first signal includes

timing information based on the first symbol clock (downstream first sync message activated signal with timestamp CMTS_SYNC_TS in the CU, paragraph [0104], page 10, lines 1-5) and data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); and

upon termination of transmission of the first signal (Fig. 22, start/end of superframe) to the one or more remote devices (Fig. 7, (300, with the upstream and downstream clock sync (a first signal is not transmitted (termination); 302, process looks and waits (non transmission termination) for message (first signal) to arrive), transmitting a second signal (data transmitted by the RU using upstream clock signal in the CU, paragraph [0012], page 2, lines 26-30; Fig. 6, start of RU transmission) using the second transmitter in the central entity to the one or more remote devices, wherein the second signal includes timing information based on the second symbol clock (Fig. 6, timestamp counter CMTS_KF_TS) and data having a second FEC alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6) that is synchronized with the first FEC alignment (time of insertion of sync messages are always inserted in the same place in the FEC frame, paragraph [0015], page 2, lines 4-6).

Claim Rejections - 35 USC § 103

2. **Claims 2, 4 and 8** are being rejected under 35 U.S.C. 103(a) as being unpatentable over Grimwood et al. in view of by Lee et al. (Patent No.: US 6,539,050 B1).

Regarding Claims 2, 4, and 8, Grimwood et al. discloses the method (method, Title, line 1), wherein the first transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote devices indicating that the first signal will be terminated (signals to stop adding (terminate) payload bytes to the downstream and add all the bytes of the sync message at the appropriate insertion point, paragraph [0157], page 15, lines 3-6) prior to termination of transmission of the first signal (Fig. 11, reset and initialize of the downcounter (resulted in the first signal being terminated) and message being sent during the first packet of the next frame starting at a known position).

Grimwood et al. fails to disclose signal termination prior to the termination of transmission.

But, Lee et al. discloses signal terminated approximately when the transmission of the signal is terminated (column 5, lines 2-5).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Lee et al.'s as the signal being terminated prior to the transmission termination since this would have provided coherent detection without causing undesirable intracell interference (column 5, lines 5-7).

Regarding Claim 5, Grimwood et al. discloses a method (method, Title, line 1) for maintaining synchronization in a communication system (communicating system, Abstract, line 1) wherein a central entity (central unit, Abstract, line 4) transmits a signal containing timing information to

one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising:

synchronizing a first symbol clock (downstream symbol clock, paragraph [0012], page 2, line 9) of a first transmitter (downstream data transmitted (first transmitter) by the CU, paragraph [0012], page 2, lines 10) in the central entity and a second symbol clock (upstream clock, paragraph [0012]. page 2, line27) of a second transmitter (data transmitted (second transmitter) by the RU in the CU, paragraph [0012], page 2, lines 26-29) in the central entity (all clocks in both the RU and CU being synchronized in the CU, paragraph [0020], page 3, lines 3-5);

transmitting a first signal using a first transmitter in the central entity (transmission (via first transmitter) from the CU to RUs, paragraph [0004], page 1, line 2 at Fig. 6, 256) to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and data having a first forward error correction (FEC) alignment (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4);

generating a second signal that includes timing information based on the second symbol clock (down stream bar codes were encoded to include the downstream chip clock so that all the RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and data having a second forward error correction (FEC) alignment (data frames are broken down

into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6);

transmitting calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position and adjustment in FEC frames) to the one or more remote devices; and

upon termination of transmission of the first signal (Fig. 22, start/end of superframe) to the one or more remote devices (Fig. 7, (300, with the upstream and downstream clock sync (a first signal is not transmitted (termination); 302, process looks and waits (non transmission termination) for message (first signal) to arrive), transmitting a second signal (data transmitted by the RU using upstream clock signal in the CU, paragraph [0012], page 2, lines 26-30; Fig. 6, start of RU transmission) using the second transmitter in the central entity to the one or more remote devices.

Regarding Claims 6, 16 and 17, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS), further including a calibration element adapted to generate the calibration information by comparing the first FEC alignment to a reference FEC alignment (Figs. 9, 10, Table 1, 2) and by comparing the second FEC alignment to the reference alignment (Figs. 9, 10, Table 1, 2).

Regarding Claim 7, Grimwood et al. discloses the method of claim 5, further comprising: generating the calibration information, wherein generating the calibration information comprises generating first calibration data by comparing the first FEC alignment to a reference FEC

alignment (Figs. 9, 10, Tables 1, 2) and generating second calibration data by comparing the second FEC alignment to the reference alignment (Figs. 9, 10, Table 1, 2).

Regarding Claims 9, 12 and 15, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) in a communication system (communicating system, Abstract, line 1), the apparatus comprising:

a first downstream transmitter (downstream transmission (transmitter) from the CU to the RUs, paragraph [0004], page 1, lines 1-2) (Fig. 13, transmitter is intended to operate in the CU upstream or downstream, paragraph [0220], page 22, lines 7-9) adapted to transmit a first downstream signal (Fig. 6, CMTS sends sync message including time stamp, CMTS_SYNC_TS from CU to RU) to one or more remote devices, wherein the first downstream signal includes first timing information based on a first symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and first data having a first forward error correction (FEC) alignment (timestamp message encapsulated into forward error correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4);

a second downstream transmitter (data transmitted (second transmitter) by the RU in the CU, paragraph [0012], page 2, lines 26-29) configured to transmit a second downstream signal (data transmitted by the RU using upstream clock signal in the CU, paragraph [0012], page 2, lines 26-30; Fig. 6, start of RU transmission) to the one or more remote devices in response to the first downstream transmitter terminating transmission of the first downstream signal (Fig. 22, start/end of superframe), wherein the second downstream signal includes second timing information based on a second symbol clock (upstream clock, paragraph [0012]. page 2, line27)

of the second downstream transmitter and second data having a second FEC alignment that is synchronized with the first FEC alignment (data frames are broken down into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6); and

a synchronization element configured to synchronize the first symbol clock and the second symbol clock (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2);

wherein at least one of the first downstream transmitter and the second downstream transmitter is configured to transmit calibration information relating to a difference between the first FEC alignment and the second FEC alignment (Fig. 9 and Fig 10, sync start position in bytes and sync adjustment in FEC frames) to the one or more remote devices.

Regarding Claims 10, 13 and 18, Grimwood et al. discloses the a apparatus (Fig. 6 CU, CMTS), wherein the first downstream transmitter transmits a notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote devices indicating that the first downstream signal will be terminated (Fig. 7, (300, with the upstream and downstream clock sync (a first signal is not transmitted (termination); 302, process looks and waits (non transmission termination) for message (first signal) to arrive) prior to termination of transmission of the first downstream signal (downstream data transmitted by the CU, paragraph [0012], page 2, lines 10).

Regarding Claims 11, 14 and 19, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) of claim 15, wherein the apparatus is a cable modem termination system (CMTS) (Fig.6, CU is CMTS, paragraph [0106], page 11, line 1).

Citation of Pertinent Prior Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burns et al. (Patent No.: US 6,449,291 B1) discloses method and apparatus for time synchronization in a communication system.

Gummalla et al. (Pub. No.: US 2002/0154655 A1) discloses system and method for combining requests for data bandwidth by a data provider for transmission of data over an asynchronous communication medium.

Pantelias (Pub. No.: US 2004/0100985 A1) discloses system and method for the reuse of S-CDMA parameters to define TDMA minislot size.

Sydon et al. (Pub. No.: US 2002/0085520 A1) discloses cordless communication system providing optimum spectral, usage for wireless networks.

Ushirokawa et al. (Patent No.: US 7,154,915 B1) discloses mobile communication system, communication control method, and base station and mobile station to be employed in the same.

Response to Arguments

4. Applicant's arguments filed October 8, 2008 have been considered. But, in view of clarification of the claimed limitations and the new grounds of rejection, the arguments are moot.

Conclusion

5. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Andrews whose telephone number is (571) 270-1801. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin C. Harper/

Primary Examiner, Art Unit 2416

LA/la
December 22, 2008